| Flight-Testing Newton's Laws | | | |
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| 1999 Science | | | |
| Core Curriculum | | | |
| **New York Science** | | | |
| **Grades 9-12** | | | |
| **Activity/Lesson** | **State** | **Standards** | |
| Session-10 (1-5) | NY | SCI.9-12.P.4.5.1.i | According to Newton's First Law, the inertia of an object is directly proportional to its mass. An object remains at rest or moves with constant velocity, unless acted upon by an unbalanced force. |
| Session-10 (1-5) | NY | SCI.9-12.P.4.5.1.k | According to Newton's Second Law, an unbalanced force causes a mass to accelerate. |
| Session-10 (1-5) | NY | SCI.9-12.P.4.5.1.n | Centripetal force is the net force which produces centripetal acceleration. In uniform circular motion, the centripetal force is perpendicular to the tangential velocity. |
| Session-10 (1-5) | NY | SCI.9-12.P.4.5.1.q | According to Newton's Third Law, forces occur in action/ reaction pairs. When one object exerts a force on a second, the second exerts a force on the first that is equal in magnitude and opposite in direction. |
| Session-1 (1-17) | NY | SCI.9-12.P.4.5.1.i | According to Newton's First Law, the inertia of an object is directly proportional to its mass. An object remains at rest or moves with constant velocity, unless acted upon by an unbalanced force. |
| Session-1 (1-17) | NY | SCI.9-12.P.4.5.1.k | According to Newton's Second Law, an unbalanced force causes a mass to accelerate. |
| Session-1 (1-17) | NY | SCI.9-12.P.4.5.1.n | Centripetal force is the net force which produces centripetal acceleration. In uniform circular motion, the centripetal force is perpendicular to the tangential velocity. |
| Session-1 (1-17) | NY | SCI.9-12.P.4.5.1.q | According to Newton's Third Law, forces occur in action/ reaction pairs. When one object exerts a force on a second, the second exerts a force on the first that is equal in magnitude and opposite in direction. |
| Session-2 (1-10) | NY | SCI.9-12.P.4.5.1.i | According to Newton's First Law, the inertia of an object is directly proportional to its mass. An object remains at rest or moves with constant velocity, unless acted upon by an unbalanced force. |
| Session-2 (1-10) | NY | SCI.9-12.P.4.5.1.k | According to Newton's Second Law, an unbalanced force causes a mass to accelerate. |
| Session-2 (1-10) | NY | SCI.9-12.P.4.5.1.n | Centripetal force is the net force which produces centripetal acceleration. In uniform circular motion, the centripetal force is perpendicular to the tangential velocity. |

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| Session-2 (1-10) | NY | SCI.9-12.P.4.5.1.q | According to Newton's Third Law, forces occur in action/ reaction pairs. When one object exerts a force on a second, the second exerts a force on the first that is equal in magnitude and opposite in direction. |
| Session-3 (1-6) | NY | SCI.9-12.P.4.5.1.i | According to Newton's First Law, the inertia of an object is directly proportional to its mass. An object remains at rest or moves with constant velocity, unless acted upon by an unbalanced force. |
| Session-3 (1-6) | NY | SCI.9-12.P.4.5.1.k | According to Newton's Second Law, an unbalanced force causes a mass to accelerate. |
| Session-3 (1-6) | NY | SCI.9-12.P.4.5.1.q | According to Newton's Third Law, forces occur in action/ reaction pairs. When one object exerts a force on a second, the second exerts a force on the first that is equal in magnitude and opposite in direction. |
| Session-4 (1-11) | NY | SCI.9-12.P.4.5.1.e | An object in free fall accelerates due to the force of gravity. Friction and other forces cause the actual motion of a falling object to deviate from its theoretical motion. (Note: Initial velocities of objects in free fall may be in any direction.) |
| Session-4 (1-11) | NY | SCI.9-12.P.4.5.1.o | Kinetic friction is a force that opposes motion. |
| Session-5 (1-6) | NY | SCI.9-12.P.4.5.1.i | According to Newton's First Law, the inertia of an object is directly proportional to its mass. An object remains at rest or moves with constant velocity, unless acted upon by an unbalanced force. |
| Session-5 (1-6) | NY | SCI.9-12.P.4.5.1.k | According to Newton's Second Law, an unbalanced force causes a mass to accelerate. |
| Session-5 (1-6) | NY | SCI.9-12.P.4.5.1.q | According to Newton's Third Law, forces occur in action/ reaction pairs. When one object exerts a force on a second, the second exerts a force on the first that is equal in magnitude and opposite in direction. |
| Session-6 ( 1-8) | NY | SCI.9-12.P.4.5.1.i | According to Newton's First Law, the inertia of an object is directly proportional to its mass. An object remains at rest or moves with constant velocity, unless acted upon by an unbalanced force. |
| Session-6 ( 1-8) | NY | SCI.9-12.P.4.5.1.k | According to Newton's Second Law, an unbalanced force causes a mass to accelerate. |
| Session-6 ( 1-8) | NY | SCI.9-12.P.4.5.1.q | According to Newton's Third Law, forces occur in action/ reaction pairs. When one object exerts a force on a second, the second exerts a force on the first that is equal in magnitude and opposite in direction. |

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| Session-7 (1-5) | NY | SCI.9-12.P.4.5.1.i | According to Newton's First Law, the inertia of an object is directly proportional to its mass. An object remains at rest or moves with constant velocity, unless acted upon by an unbalanced force. |
| Session-7 (1-5) | NY | SCI.9-12.P.4.5.1.k | According to Newton's Second Law, an unbalanced force causes a mass to accelerate. |
| Session-7 (1-5) | NY | SCI.9-12.P.4.5.1.n | Centripetal force is the net force which produces centripetal acceleration. In uniform circular motion, the centripetal force is perpendicular to the tangential velocity. |
| Session-7 (1-5) | NY | SCI.9-12.P.4.5.1.q | According to Newton's Third Law, forces occur in action/ reaction pairs. When one object exerts a force on a second, the second exerts a force on the first that is equal in magnitude and opposite in direction. |
| Session-8 (1-9) | NY | SCI.9-12.P.4.5.1.i | According to Newton's First Law, the inertia of an object is directly proportional to its mass. An object remains at rest or moves with constant velocity, unless acted upon by an unbalanced force. |
| Session-8 (1-9) | NY | SCI.9-12.P.4.5.1.k | According to Newton's Second Law, an unbalanced force causes a mass to accelerate. |
| Session-8 (1-9) | NY | SCI.9-12.P.4.5.1.q | According to Newton's Third Law, forces occur in action/ reaction pairs. When one object exerts a force on a second, the second exerts a force on the first that is equal in magnitude and opposite in direction. |
| Session-9 (1-7) | NY | SCI.9-12.P.4.5.1.i | According to Newton's First Law, the inertia of an object is directly proportional to its mass. An object remains at rest or moves with constant velocity, unless acted upon by an unbalanced force. |
| Session-9 (1-7) | NY | SCI.9-12.P.4.5.1.k | According to Newton's Second Law, an unbalanced force causes a mass to accelerate. |
| Session-9 (1-7) | NY | SCI.9-12.P.4.5.1.q | According to Newton's Third Law, forces occur in action/ reaction pairs. When one object exerts a force on a second, the second exerts a force on the first that is equal in magnitude and opposite in direction. |